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ABSTRACT

Designed as a guideline for secondary schools, postsecondary vocational technical schools, adult programs, and 2-year colleges, this material should be of assistance to all persons responsible for implementing and administering new and on-going programs in agricultural education. Preparation of the guidelines was initiated at a national Office of Education seminar involving agriculture supervisors and teacher educators and they were later refined by committees and consultants. The primary objectives are to: (1) provide information enabling state directors of vocational agriculture and staffs of agricultural education to examine their role in initiating, administering, and coordinating local programs, (2) improve the education and training programs of students preparing for occupations in agriculture, (3) assist in developing special and innovative agricultural career programs, (4) develop agricultural programs for disadvantaged and handicapped, (5) improve the efficiency of the agricultural industry by helping develop competence and leadership of its manager and employees, and (6) strengthen ancillary services. These guidelines should be expanded and adapted for each state program. (GB)

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GUIDELINES FOR DEVELOPING PROGRAMS IN AGRICULTURAL EDUCATION FOR THE 1970's

Developed By

NATIONAL SEMINAR OF STATE SUPERVISORS AND TEACHER EDUCATORS - AGRICULTURAL EDUCATION
NATIONAL OUTLOOK PLANNING COMMITTEE - AGRICULTURAL EDUCATION

COMMITTEE OF OE CONSULTANTS ON AGRICULTURAL EDUCATION

In Cooperation With

Division of Vocational and Technical Education
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The basis for this publication was a list of recommendations which was generated at the National Outlook Conference in Agricultural Education held at St. Louis, Missouri, May, 1968.

Under the chairmanship of Mr. Homer E. Edwards, the guidelines were categorized and refined for presentation to membership of the Agricultural Education Division of the American Vocational Association during the annual meeting held at Dallas, Texas, December, 1968.

Mr. H. N. Hunsicker assembled a committee of consultants which were selected by the U.S. Office of Education to write the guidelines in final form. Those who served on the committee which met in June, 1969 were Dr. Ralph E. Bender, Mr. Ray Brush, Mr. C. W. Dalbey, Dr. Charles C. Drawbaugh, Mr. Homer E. Edwards, Mr. J. Edward Givens, Mr. Vaden B. Hairr, Mr. Howard Sidney, and Dr. Ira I. Somers.

The part of the publication which precedes the guidelines was prepared by Dr. Charles C. Drawbaugh and approved by the Consultant Committee.

The publication represents the inputs of hundreds of agricultural education leaders from across the Nation.

INTRODUCTION

In the last 50 years American agriculture has advanced more than in all previous years in our history. Modern farming and ranching combined with progressive methods of marketing, transporting, processing and merchandizing have given us an abundant supply of food and farm products.

Today the average U. S. farm worker produces enough food, fiber and tobacco to supply 43 people. Every farm worker is now backed by more than two non-farm employees in agriculturally related industries. Today, three out of every 10 jobs in private employment are related to agriculture.

One hour of farm labor produces nearly seven times as much food and other crops today as it did in 1919-21. Crop production per acre and output per breeding animal have almost doubled. In the last decade alone, the realized gross income of the nation's farmers has climbed from about $38 billion (including direct government payments) to more than $54 billion. Realized net income has climbed by 35 percent.

Experts predict that population will increase by more than 100 million people by the year 2000. In order to feed, clothe and house the predicted 300 million people, the nation's agricultural industry will have to continue to grow both in size and efficiency. In the years ahead the industry of agriculture will need people with special training and experience to carry out the task of providing essential goods to consumers. To meet these manpower needs, new educational programs have been developed and are being expanded to train men and women for jobs in the dynamic agricultural industry.

This publication was written within the framework of current national legislation. It is designed as a guideline for secondary schools, post secondary vocational technical schools, adult programs, and two year colleges. This material should be of assistance to all persons responsible for implementing and administering new and on going programs in agricultural education.

The primary objectives of the guidelines are to:

1. Provide information enabling state directors of vocational agriculture and staffs of agricultural education to examine their role in initiating, administering, and coordinating local agricultural education programs.

2. Improve the education and training programs of students preparing for occupations in agriculture.

3. Assist in developing special and innovative agricultural career programs.

4. Develop agricultural programs for disadvantaged and handicapped.

5. Improve the efficiency of the agricultural industry by helping develop the agricultural competence and leadership of its managers and employees.

6. Strengthen ancillary services especially teacher education, supervision and research.

Guidelines in this publication should be expanded and otherwise adapted for each state program.

THE INDUSTRY OF AGRICULTURE

The industry of agriculture involves more than farming and ranching. Agriculture both on and off-farm is basic to other industries. It is so immense and so thoroughly integrated with allied industries that its contribution to our gross national product is difficult to measure. It is estimated that more than $250 billion is invested in American agriculture, an amount equal to three-fifths of the value of all the stocks listed in the New York Stock Exchange.

About one-third of the nation's working force is employed in the agri-industry complex.

In addition to the production of food and fiber, agricultural related industries provide services to farmers and ranchers; they process and market agricultural products, and oversee the conservation and wise use of land, air, water and other resources.

Agricultural Production

Resources basic to the production of food and fiber are land, labor, management, and capital. Approximately 1.84 billion acres, including forest land, are available for farm production. Educated agriculturists using improved technology and conservation techniques have been able to supply food and other farm products to a rapidly increasing domestic and foreign population. Today's average farm worker produces enough food and fiber for himself and 43 others--almost 20 more than a decade ago.

"About 3.2 million persons (including farm operators) were employed in farming in 1970 (Census of Agriculture 1964). "If projections of farm output, and farm production per unit of labor materialize, average farm employment in 1980 will be about 3.6 million workers. Of this number, 2.6 million will be farm operators and unpaid family workers and 1 million will be hired workers" (The 90th Congress, 1967).

While the overall need for farm labor will be somewhat less in the years ahead, farm operators and workers will need higher levels of training. The successful farm operator today uses knowledge of biological sciences; soil, land and water conservation; chemistry, physics and business management. "He performs many jobs with complex tools and machines. He combines science and machine power with the ancient arts of tilling the soil." (USDA, 1967).

Agricultural Services

Services to agriculture include credit, insurance, equipment, research, supplies, fertilizer, and chemicals. Farm product supply and service sales, in Ohio alone, amount to $650 million annually and provide 26,500 jobs (Dougan, June 1969).

In 1964, farm supplies businesses engaged 1.1 million workers and final manufacture of equipment and supplies employed 300,000 workers. It is estimated that about half of the workers in farm supplies businesses were engaged in selling. The other half were in farm service. (The 90th Congress, 1967).

In 1965 the commercial agricultural industry spent about $460 million on agricultural research and development. The Department of Agriculture and state agricultural experiment stations expended another $394 million. Other university and federal agencies conducted agricultural research costing $365 million. Emphasis on meaningful agricultural research both by government and industry has been a key to the tremendous strides made in improving production, marketing and distribution of agricultural products. The results of modern agricultural research have been put to work quickly in this nation mainly because of the availability of news media and agricultural education for farmers and persons in agriculturally related businesses.

Agricultural Processing and Marketing

Today the agricultural processing and marketing industry is one of the fastest growing in the agri-industry complex. "The number of workers engaged in processing and distributing farm originated products rose from 10.1 million in 1950 to 10.7 million in 1964" (The 90th Congress, 1967). For example "32,000 meat packing establishments and 1,300 meat processing plants make meat packing and processing one of the four largest industries in the United States. . . The nation's 1,800 canning plants pack more than 938 million cases of food with a wholesale value estimated at nearly $6 billion per year. . . The food processing industry pays more than 1.5 million people total annual wages in excess of $9 million" (Somers, 1969).

Agricultural Resources

Man is becoming increasingly concerned about the crowded and polluted environment in which he lives. Since natural resources are limited, ways are being sought to conserve and use them more wisely than in the past. Jobs related to air and water pollution, land use and planning, public recreation, highway and park beautification, and wildlife management, are becoming more common in state and local governments.

Beautification will continue to utilize a larger share of agricultural manpower resources in a strong economy. Nursery, floriculture, and turf enterprises will expand with continued growth of metropolitan areas where there is a need for parks, recreational facilities, landscaping of new construction and interest in city and regional planning. Beautification, often recognized as a luxury in the past, is now a necessity.

Manpower Projections

As the agricultural industry becomes more technical, more commercial, and more integrated with other segments of the national economy, the percentage of the population directly engaged in farming will level off, but the numbers engaged in off-farm agricultural occupations will increase. Manpower projections in agriculture show considerable expansion in the occupational areas including research, retail and wholesale trade, and the food processing industry.

Agricultural Education
The Past

Federally funded programs in vocational agriculture education have been in existence for more than half a century, yet it has contributed extensively to the prosperity of our Nation during war and peace, depression and prosperity, and in today's population explosion. The major contribution of agricultural education to this nation has been to train generations of farmers to produce an abundance of food and fiber for domestic and foreign markets.

While emphasis on farming has been the main objective of agricultural education, the technological revolution in farming has created some dramatic changes in classroom instruction. The Vocational Act of 1963 laid the ground work for increased emphasis on preparation of vocational agriculture students for jobs in all phases of agricultural marketing, processing, and management.

In the developing stages of vocational agriculture, instructors in many schools saw a need for an organization for young men with a special interest in agriculture. Such an organization, they felt, should give students an opportunity to develop skills in leadership and cooperation and give a practical outlet for knowledge gained in the classroom.

Supervised Farming. All students had supervised farming programs planned cooperatively by student, parents, and teacher. Such programs were an opportunity for students to put classroom theory into practice and to learn basic principles of business management chiefly on the farm. Through profitable farming programs students were taught to "earn as they learned."

Quality Instruction. Instruction was conducted in the classroom, school laboratories, and the home farm. The instruction was enriched with audio-visuals, experiments, and demonstrations. Much of the instructional time was devoted to practical applications of classroom studies. School laboratory assignments, supervised farming programs, and FFA-community improvement activities gave students many practical learning experiences. Because teachers of agriculture were employed year-round, effective teaching and learning continued throughout the summer.

Community Resources. Courses of study were constructed deliberately to include such community resources as farmers, businessmen, governmental personnel, and such satellite learning centers as farms, agricultural businesses, woodlands, and experimental plots. The use of community resources made learning more palatable and meaningful to students, served to update and supplement printed materials, and strengthened school-community relationships.

In many communities an "advisory committee" made up of community farm and business leaders worked with the agricultural instructor to recommend educational programs that would meet the needs of the community.

Individualized Instruction. Agricultural educators adopted individualized instruction methods of teaching. Supervised study, individual conferences, problem-solving, supervised farm experience, laboratory experiments and demonstrations and FFA activities favor the individual student. Home visits by the teacher added to the student's individualized benefits from the agricultural education program.

In 1928 several state associations got together in Kansas City to form the National Organization of the Future Farmers of America. The Future Farmers of America became an integral part of the vocational education program with the vocational agriculture instructor as the advisor at the local level. Other advisory personnel are located at State and National levels. The goals of the organization at all levels are to develop interests and abilities in leadership, citizenship, scholarships, and community service.

Over the years many strengths of agricultural education have been enumerated. Some examples of the discipline's major strengths are:

Competent Educators. When agricultural education was in the specialized business of preparing boys for farming most teachers of agriculture were reared on farms, were agricultural students and were graduated from state universities with baccalaureate degrees in agriculture. Not only were the teachers prepared professionally and technically, they had experienced farming. They were part of it. They had lived it. In addition, they were supported by dedicated supervisory personnel who trained and closely supervised them from national, state, and local administrative and supervisory positions.

Projects. Students of agricultural education, since the inception of the program, benefitted from projects of various types. Teachers used the project method to advantage for instruction in such areas as farm and home improvement, agricultural mechanics, laboratory experiences, and in certain FFA activities. While agricultural educators realized that no one method or technique of instruction serves all educational purposes, the project idea served agricultural education well in the process of making practical applications from theoretical instruction.

Today these basic strengths are proving to have been a sound foundation on which to broaden the base of the vocational agriculture program.

The Present

It was not until this present decade that federal legislation was passed to expand agricultural education to include preparation for off-farm agricultural occupations. In addition to preparing manpower for the business of farming, agricultural educators accepted the added responsibility of training workers for such occupational areas as agricultural supplies and services, agricultural mechanics, agricultural products, forestry, ornamental horticulture and agricultural resources. For the first time curriculum researchers attempted to identify, on a large scale, those competencies and skills needed by workers in off-farm agricultural sectors of the economy. Out of necessity the cluster concept was conceived as a sound approach to teaching knowledge and skills common to a family of agricultural occupations.

Programs and courses of agricultural education are offered at several levels for all persons of all ages. Programs and courses range from pre-vocational through vocational and technical and professional levels. Agricultural education at the secondary level is taught in comprehensive high schools, area schools, and vocational schools. While the major thrust, in terms of numbers of students, is at the secondary level, post secondary agricultural education is beginning to come of age. Adult programs were, and continue to be an important segment of the training program. Training school dropouts and retraining the unemployed and the underemployed agricultural workers for new and existing jobs is a responsibility of the teacher of agriculture. Students with special needs, a recent addition to the list of categories denoting kinds of students, are now a sizeable part of the agricultural enrollment (See Table I).

The Vocational Education Act of 1963 affected enrollments in agricultural education positively in two ways. First, it served to increase total enrollments. Secondly, passage of the Act encouraged enrollments in programs leading to employment in off-farm agricultural occupations. In 1969 enrollments show more than 30 percent of the 536,000 secondary students in agricultural education were in off-farm agricultural education programs.

Table 1. Kinds and Numbers of Students Enrolled in Agricultural Education Programs in the United States during 1965, 1967, and 1969.

Kinds of Students	1965	1967	1969
Secondary	516,893	508,675	536,039
Post-secondary	2,054	8,093	15,816
Adult[c]	367,287	413,454	290,336
Special Needs	1,295	17,436[a]	35,729[b]
Totals	887,529	935,170	850,705

a. Of this enrollment, 12,488 are included in the secondary enrollment figure.
b. Of this enrollment, 27,215 are included in the secondary enrollment figure.
c. Drop in enrollment from 1967 to 1969 was due to change in method of reporting.

Table 2 shows the off-farm agricultural education enrollments immediately after passage of the Vocational Education Act of 1963. Agricultural resources had no enrollment during the 1964-65 school year but gained substantial enrollment in 1967-68. Agricultural supply and agricultural products (processing) programs lost enrollments during the same period. Agricultural mechanization and ornamental horticulture gained in enrollment and together made up approximately 60 percent of the off-farm agricultural education enrollment in secondary programs.

Output in agricultural education is measured in terms of persons trained for jobs in agricultural industry. The U.S. Office of Education maintains annual statistics on aspects of vocational training such as subject matter areas, level of training, age groups trained, and sex of trainees. Output is measured in terms of persons engaged in production agricultural education programs and off-farm agricultural education programs.

Off-farm agricultural education enrollments at the high school level are showing rapid growth rates. The areas of greatest increase have been in agricultural mechanics, ornamental horticulture, agricultural resources and forestry. With the increased mechanization of agriculture, there is an expanding demand for people trained in the care and maintenance of heavy equipment and agricultural machinery. Government and private emphasis on beautification, environment control and the production of building materials have been largely responsible for the increased demand for courses in ornamental horticulture, agricultural resources and forestry. As interest builds in these subjects, enrollments will continue to climb.

Table 2. Enrollments of High School Students in Programs Leading to Employment in Off-Farm Agricultural Occupations Immediately After Passage of the Vocational Education Act of 1963 (1964-65) and the Most Recent Data Available (1967-68)

Off Farm Agricultural Education Programs	School Years 1964-65	1967-68
Agricultural Mechanization	7,836	56,662
Agricultural Supply	18,434	14,901
Agricultural Products (Processing)	23,136	8,423
Ornamental Horticulture	3,827	27,153
Agricultural Resources	-----	10,317
Forestry	2,304	12,863
Other Agriculture	-----	9,458
Total	55,537	139,777

Teachers are being prepared in universities and on the job to train students for off-farm agricultural jobs as well as in agricultural production. "During the 1968-69 school year more than one third of the 12,565 teachers taught the new agri-business occupational programs either full time or part time." In addition teachers of vocational agriculture carried out extensive adult education programs working with state young farmer organizations. They taught classes in farm management and agricultural mechanics in both high schools and in area centers. Virtually all vocational agriculture instructors act as advisors to FFA chapters, devoting many hours to helping their students carry out active programs. In urban high schools vocational agriculture teachers often work together to offer several courses of study.

Not only are vocational agriculture educators involved in a variety of teaching experiences, but they are well organized into their own National Vocational Agriculture Teachers Association. This organization is quite active and stresses professionalism among its members.

Expansion of kinds and levels of programs among other factors, has caused a shortage of teachers of agriculture. Presently there is a critical deficit of teachers qualified to prepare students for off-farm agricultural occupations.

Table 3. Present and Projected Enrollments in Agricultural Education Programs

	Students	
	1969 (Present)	1975 (Projected)
Total Enrollment in Agricultural Education	850,000	1,150,000[a]
Enrollment for Off-Farm Agricultural Occupations[c]	205,000	644,000[b]
Enrollment for Agri. Production Occupations	645,700	506,000[b]

a. Projection made by (U.S. Department of HEW, 1966).
b. Assuming that 56 percent of the students will be preparing for off-farm agricultural occupations and 44 percent for agricultural production jobs (U.S. Department of HEW, 1966).
c. Off-farm agricultural occupations include mechanization, supply, products, ornamental horticulture, resources and forestry.

A summary of data from thirty-six State Plans submitted for the 1969-70 fiscal year with projections to 1974 offers supply and demand figures for agricultural education and agriculture respectively. The thirty-six states reporting will need 724,000 new and replacement agricultural workers in 1974, but according to estimates agricultural education in those states will be graduating only 120,000 students. In essence, the figures show that agricultural education will be training only about one-sixth of the manpower needed by the industry of agriculture in 1974.

Since manpower estimates are subject to inaccuracies and since demand for skilled workers and technicians in the agri-industry complex exceeds supply, the guidelines which follow are suggested as a means of changing agricultural education to meet the needs of the decade ahead. The guidelines give direction rather than mandate programs and policies. They are suggested as planning aids for state supervisors, teacher educators, and teachers of agriculture. A study of the guidelines will reveal the perceived nature of agricultural education in the decade ahead from a national point of view. State administrators and supervisory staff should study the guidelines, adapt them accordingly, and add others to reflect the future direction of programs and policies in their own states and communities.

The Future

Enrollment in agricultural education by 1975 is estimated to be 1,150,000 students. Seventy percent of the present enrollment is in agricultural production but by 1975 it is projected that 56 percent of the students will be preparing for off-farm agricultural occupations. It is estimated that completions per year by 1975 will be more than double present completions. Table 3 shows the enrollments and completions in agricultural education programs for the 1968 school year and projections for 1975.

The annual output of graduates in agricultural education should correspond to annual manpower needs of the agricultural industry to efficiently match people with jobs. Except for agricultural production workers, the industry has not arrived at meaningful manpower estimates. The numbers of off-farm workers with agricultural competencies in manufacturing; transportation; communications; wholesale and retail trade; finance, insurance and real estate; services, and government are lost in the composite of data for each of the above classifications.

GUIDELINES FOR AGRICULTURAL EDUCATION

Programs for Secondary Students

Secondary schools should provide instruction within the broad field of agriculture for all rural and urban boys and girls who are interested and can benefit from such education. The instruction should prepare for employment in occupations where agricultural competencies and knowledge are necessary or desirable. Students should be so prepared as to permit maximum flexibility in their choice of post-high school occupational and education options.

Curriculums of a flexible nature should be developed to qualify students for entry into occupations as well as to pursue additional educational options and to fulfill their role as effective citizens in a democracy.

---- Programs should be provided to prepare students for employment in various agricultural areas such as production, mechanics, supplies and services, products and processing, ornamental horticulture, forestry, and renewable resource development and recreation.

---- Performance criteria should be identified and used in the development of appropriate curriculums to meet the needs of the individual.

---- Curriculums should include specialized programs in occupational clusters following one or two years of basic instruction in agriculture. Length and intensity of program are both important for those students whose long time goal is entrepreneurship in both production agriculture and/or agricultural business.

---- Prevocational programs which include units in agriculture should be articulated with vocational programs.

---- Agricultural curriculums should be closely integrated with general education. An individual student's program must include both occupational and general education. The curriculums should be coordinated with other areas of vocational education where like competencies are needed.

---- Emphasis should be given to vocational and educational guidance. Counseling of students concerning occupational careers, technical schools and other post-high school programs, four-year college programs and young farmer program should be provided.

---- Assistance in placement in employment opportunities and follow-up services should be provided.

---- Community resources should be used in making curriculums more dynamic and more relevant. Local advisory councils should be organized and used.

---- Curriculums should be evaluated continuously to reflect the changes in occupational needs.

Appropriate supervised occupational experience programs should be provided for all students enrolled in agricultural education.

---- Occupational experience programs should be flexible and related to the aptitudes, interests and needs of the student and the course of study pursued.

---- Programs may be conducted on the farm (home or otherwise), in agricultural businesses, or in the school laboratory.

---- Supervised occupational experience for students may be year-round in duration and should be progressive from the simple to the more difficult with respect to the student's abilities and responsibility.

---- Supervised occupational experience programs should conform to state and national labor regulations.

---- Cooperative occupational experience programs should be coordinated with other vocational services in the school.

---- Where large blocks of time may be necessary to develop competency, both in-school and out-of-school time should be utilized.

---- Opportunities to secure financial remuneration commensurate with the scope and responsibility of the experience should be provided. However, the emphasis should be primarily upon learning rather than earning.

The FFA is an organization for all students of agricultural education. It should be used to enrich and supplement the instructional program, and to insure the development of leadership, cooperation and citizenship in the members.

---- All secondary students in agriculture should be involved in the FFA as an integral part of their education program.

---- The terminology, degrees, ceremonies, and activities should be appropriate for all students enrolled.

The teacher should use the resources of the school and community in providing the most effective educational situation for each individual.

---- The teacher should integrate theory and practice--students need to understand principles of why as well as what and how.

---- Differentiated staffing, including teaching assistants and technicians should be used in supplementing and aiding the teacher.

---- Multiple--teacher departments, adequately equipped, located in comprehensive schools, are encouraged for teaching vocational education in agriculture. Area vocational schools and residential schools are needed in some locations to supplement local programs.

Programs for Post-Secondary School Students

Post-secondary programs in agriculture should be designed to meet the manpower needs for skilled and technically trained persons in occupations requiring agriculture competencies. Each state should accept responsibility for the promotion, development, and maintenance of such programs and assure their availability to persons of post-secondary school age. A tentative occupational choice should have been made by each student prior to enrollment in a specific program.

State staffs for agricultural education must exert leadership and accept responsibility for initiating and developing programs to provide post-secondary students with opportunities for quality training in agricultural education.

---- A statement of purpose and philosophy for post-secondary programs in agricultural education should be developed.

---- State staff should determine and identify employment opportunities in those occupations where knowledge, skills, and abilities in agriculture are essential for gainful employment.

---- One or more members of the state staff should be assigned the responsibility for leadership and direction of post-secondary programs in agriculture.

---- A master plan for post-secondary school education in agriculture should be developed to meet employment needs within the state.

---- Criteria for approval and evaluation of post-secondary school programs should be adopted.

Representatives of agriculture and business must be actively involved in program planning and evaluation.

---- Statewide and local advisory councils of capable, knowledgeable people recognized as leaders in their field should be utilized.

---- Items which should be given high priority are supervised occupational experience, use of resource people, technical information, placement and formulation of policy.

Curriculums should be designed to teach skills and applied sciences in a meaningful sequence to allow for employment at different levels.

---- The standards and length of vocational and technical programs will be determined by the time needed to teach the skills and competencies for occupational entry. It is recognized that technical programs usually are two years in length to provide the technical and applied sciences as well as supervised occupational experience.

---- Professional educators should be responsible for the final curriculum development, course content, and instructional program.

---- The curriculum should be evaluated continually and changed to keep pace with technological developments.

Supervised occupational experiences should be included as an integral part of the education program.

---- Supervised occupational experience must be planned which will complement the classroom and laboratory learning.

---- The kind and amount of supervised occupational experiences needed by the individual will be determined by the competencies he needs for success in the occupations.

---- Occupational experiences may be gained through ownership, employment, in the school laboratory and other appropriate means.

---- Students should receive credit for supervised occupational experience.

---- The selection and use of occupational experience stations should be in accordance with established guidelines.

---- The employer, the teacher, and the student should carry on a continuing evaluation of the student's occupational experiences.

Adequate facilities and instructional materials must be provided to meet the needs of the students.

---- The state supervisory staff, in cooperation with the local administration, should exert leadership in providing adequate facilities and equipment.

---- Specialized equipment, and laboratories available at or to the institution are required for instruction in technical curriculums.

---- The emphasis should be on variety and quality of equipment. Equipment similar to that currently used in the industry should be available.

---- Post-secondary programs require a library of technical pamphlets, references, films, and journals. A librarian should be assigned the care of educational media where programs warrant.

An adequate supply of capable teachers with appropriate technical and professional training is essential to the success of the program.

---- An excellent source of teachers are individuals who have completed technical and professional programs in agriculture, with occupational experience in business, education, and industry. Other qualified individuals may serve as technical assistants and as resource people.

---- The pre-service and in-service training of teachers shou... be the responsibility of state staffs in agricultural education.

---- The teaching faculty in post-secondary school programs should regularly participate in state and area meetings with other teachers of agriculture.

---- Teachers who need technical knowledge and/or professional training should receive specialized in-service education to develop these competencies.

Articulation of secondary school, post-secondary school and college programs should be a continuous process.

---- Liaison between high school and post-secondary school teachers and administrative staffs is essential.

---- Post-secondary school programs should build upon the existing level of the student taking into account his previous experience and education in the area of study.

---- Career objectives of post-secondary school programs should be clearly identified.

Appropriate student organizations should be part of the instructional program.

---- The state staff should provide guidelines and encourage the development of organizations for post-secondary school students.

---- The local organizations should be coordinated on the state and national basis with appropriate activities conducted at each level.

---- The post-secondary organization should operate cooperatively with other existing student organizations in agricultural education (such as the FFA and YFA).

Programs for Out-of-School Youth and Adults

Programs designed to provide continuing in-service education in agriculture for out-of-school youth and adults should be available in all states. Such education is designed to serve the needs of all persons in both farm and off-farm agricultural occupations. The rapid technological changes occurring in the agricultural industry, demand that increased emphasis be given to continuing education in agriculture.

Appropriate education in agriculture should be provided for all persons who desire and can profit from such education.

---- Education in production agriculture including agricultural business management should be available to all persons established in or becoming established in farming and ranching.

---- Education in the skills of production agriculture should be made available for all farm and ranch workers.

---- Education in agriculture should be made available for all persons presently employed in or preparing for employment in off-farm agricultural occupations.

---- Appropriate education in agriculture should be made available for persons employed or preparing for employment in occupations which meet the recreational or advocational needs of rural or urban groups.

An administrative organization should be established which will promote and develop continuing education in agriculture.

---- Personnel should be employed at the national, state, area, and local levels with specific responsibility for the promotion and development of programs.

---- Administrative and supervisory personnel at all levels should be knowledgeable, experienced, and committed to the task of providing continuing education in agriculture.

---- Channels of communication should be established to coordinate programs of continuing education in agriculture among the other agencies involved.

Annual and long range goals for the expansion and improvement of continuing education in agriculture should be established at the state and local level.

---- Research should be developed and implemented to provide necessary information on cost effectiveness. types of programs needed, and evaluation of innovative programs.

---- Local school systems should include continuing education in agriculture in their long range program and budget plans.

---- Policies and administrative procedures should be established which permit flexibility and adaptation to community and individual needs.

---- State staffs should evaluate programs on the basis of annual and long range goals.

State and local advisory committees should be organized specifically for identifying the program needs of out-of-school youth and adults.

---- Programs of continuing education in agriculture should be developed in consultation with representatives of that aspect of the agricultural enterprise most concerned.

---- Advisory committees should meet and function on the specific problems of educational needs.

Teacher education and state supervisory staffs should recruit, prepare, and update personnel specifically for developing programs for out-of-school youth and adults.

---- Pre-service and in-service education should be provided for teachers, administrators, supervisors, and resources persons who work specifically with out-of-school youth and adults.

---- Teacher education departments should be staffed with personnel having special interest and competencies in continuing education in agriculture.

Curriculums should be relevant to the individual needs of the students.

---- Curriculum objectives should be identified which reflect individual needs and which give recognition to the needs for entrepreneurship training in agriculture.

---- Instruction should provide for the short-term, intermediate and long range goals of the students.

---- Curriculums should be developed by professional educators in consultation with students and representatives of the agricultural enterprise most concerned.

---- Curriculums should be evaluated continually to insure changes in occupational competency needs are reflected in the instructional content. Both students and advisory committees should be involved in this evaluation.

Educational organizations for out-of-school young adults should be promoted at local and state levels.

---- Local young farmer chapters should be organized in communities where young farmer instructional programs exist.

---- Organizational activities for young persons involved in continuing education for off-farm agri-business occupations should be developed.

---- The objectives of out-of-school youth and adult organizations must be educational, non-profit, and non-political in nature.

---- State associations of young farmers should be organized.

---- Co-operative relationships should be established with other agricultural, educational, and service organizations.

---- State staff should provide leadership in promoting participation in young farmer institutes.

Programs for the Disadvantaged and Handicapped

Programs should be provided by each state which will develop competencies in agricultural occupations for both disadvantaged and handicapped persons of all ages who cannot benefit from regular on-going programs due to certain mental, physical, psychological, economic or other limitations. These competencies would include understandings, appreciations, skills, attitudes and citizenship which contribute to initial employment and advancement in agricultural occupations.

<u>The agricultural education staff should be organized so as to provide leadership in the administration and supervision of programs in agriculture for persons with special needs.</u>

---- One or more members of the state staff should have leadership responsibilities for programs for persons with special needs.

---- Individuals with special needs who can profit from programs in agricultural education should be identified with existing guidelines.

---- Cooperative relationships with written agreements should exist with other agencies and services having an interest in, and legal responsibility for serving individuals with special needs.

---- Teacher educators should assume progressive leadership in designing and conducting in-service training programs for teachers who are serving students with special needs.

Special needs programs in agricultural education should be planned, organized and implemented to effectively meet the needs of those individuals enrolled.

---- Teachers should be especially qualified for, and committed to working with students with special needs.

---- The design and emphasis of programs should have sufficient flexibility to servie the needs of those enrolled.

---- Programs in agricultural education for persons with special needs should utilize parents, existing services, resources and agencies in the school and community.

---- Instruction for students with special needs should be based on the "learning by doing" approach.

---- Teachers responsible for these programs should have a low student-teacher ratio and be given ample time to plan the program. They should provide the instruction, and give individual attention to students at school, home, and other places of supervised occupational experiences.

---- Supporting courses such as reading, mathematics, and communicative skills should be taught with practical application to the students' agricultural employment objectives.

---- These programs should have "success factors" built in with appropriate regards and recognition.

---- The school should either provide or arrange facilities for appropriate supervised occupational experiences.

---- Membership and involvement in activities of FFA and other student organizations should be provided to develop interest and pride in agriculture, leadership, cooperation, and desirable qualities of citizenship.

---- The local advisory council for agricultural education should assume the responsibility of advising on the initiation of the program and the improvement of its operation.

---- Programs in agricultural education for persons with special needs should be evaluated continuously. The evaluation process should involve program planners, teachers, students, employers, school administrators and representatives from interested agencies and services.

---- Teachers should work closely with prospective employers to assure placement of program graduates.

Ancillary Services

Ancillary services support and enrich quality programs of vocational and technical education. Ancillary services include (1) administration and supervision, (2) teacher education, (3) guidance and counseling, (4) research and development, and (5) instructional materials. These services must be applicable to the specific needs of vocational programs for agricultural occupations.

Administration and supervision

State level administration and supervision should be provided by staff of experiences personnel trained in agricultural education.

---- Primary supervision of local programs should be provided by local school personnel.

---- State staff should work with local administrators, vocational directors, supervisors, and teachers to develop new and innovative programs in accordance with local, area, state and national needs.

---- Emphasis should be given to the promotion and development of agricultural programs in both urban and rural areas.

---- State staff should be assigned supervisory responsibilities geographically, and by specifically designated program or service areas such as instructional materials, FFA, adult, post-secondary or special needs programs.

---- Opportunities should be provided for the upgrading of staff members through workshops; seminars, and sabbatical leave.

---- The state administrative and supervisory staff should join with teacher education staffs to plan, promote and coordinate programs of vocational education in agriculture appropriate to the needs of persons of all ages in the state.

Reimbursement policies should reflect the desired program emphasis.

---- Special funding should provide added incentive for pilot and experimental programs, in-service education, and for realistic research and evaluation projects.

---- The need for individual instruction through supervised occupational experience programs must be reflected in reimbursement policy on extended school day and year-round employment of reachers.

The state administrative and supervisory staff should establish program standards which assure quality programs in agricultural education.

---- Programs of sufficient length and depth should be provided to meet the needs of the student's vocational objective. Programs should prepare the student for employment at the desired occupational entry level and/or make progress in the occupations.

---- Assistance should be given local school administrators in developing new and expanded programs.

---- Aid should be provided in evaluating and improving existing programs.

---- Emphasis should be given to providing adequate laboratory and occupational experiences.

The state administrative and supervisory staff should provide services to local administrators of agricultural education programs.

---- Assistance should be given to the development of leadership for planning, promoting and developing programs at all levels.

---- Opportunities should be provided for in-service education for teachers.

---- Coordination with other agricultural and educational agencies and assistance in recruitment and placement of teaching personnel should be provided.

---- Secondary, area vocational, post-secondary, and adult programs of agricultural education should be coordinated.

---- Employment opportunity and placement information should be obtained and disseminated in cooperation with state and federal agencies.

---- The state staff should assist local personnel in the evaluation or programs of agricultural education.

The state administrative and supervisory staff should, with the assistance of local vocational staff personnel, develop an effective reporting system.

---- Report forms should be developed and used to provide data usable in data processing retrieval systems.

---- Reporting systems should be coordinated with other vocational services for efficient use of time by local personnel.

The state administrative and supervisory staff should give its support to the development of more complete programs of vocational education to be made available to persons of all ages in rural areas.

---- Encourage local schools in rural areas to utilize vocational teachers in a diversified cooperative program of vocational education.

---- Service as a catalyst in planning innovative vocational programs in rural areas.

---- Serve as a clearinghouse and source of information and services pertaining to manpower training and related needs in rural areas.

Teacher Education

There should be a common core of professional education content at undergraduate and graduate levels in agricultural teacher education.

---- Teachers of agriculture must be prepared for a total concept of agricultural education to include such items as farm and off-farm occupational training, post-high school and continuing education, and education for those with special needs.

---- Teachers must be prepared to teach in comprehensive vocational programs and in multiple teacher departments.

---- Teachers should be taught how to use effectively advisory committees, consultants, resource specialists, and employment services.

---- Teacher educators in agricultural education should prepare teachers for greater involvement in pre-vocational occupational education and career guidance in agricultural occupations.

---- Teacher educators should be responsible for preparing differential staffing personnel for instructional programs in agriculture such as teacher aides, agricultural technicians, and specialists in agricultural technology.

---- Teacher educators of agricultural education should use other educational specialists such as guidance personnel, psychologists, sociologists, economists, and other occupational teacher educators.

---- When in accordance with institutional policy, teacher educators should accept the responsibility for professional training of agricultural extension service personnel.

---- Teacher educators should become concerned in international agricultural education and assist where possible.

Requirements for graduation and certification of prospective teachers in agriculture must be flexible.

---- Specialization should be built into undergraduate programs to permit students options such as preparation for teaching at the post-secondary school or adult level, preparation for teaching programs for persons with special needs, or in specific subject areas such as forestry or agricultural supplies.

---- Certification of teachers of specialized programs should be based upon occupational competency and experience as well as formal training.

Inservice programs should be based on essential professional and technical competencies.

---- Innovative approaches for effective use of educational media, internships, differentiated staffing, resource personnel, communications technology, student teaching, and other innovations should be used to improve teaching.

---- Consultants and specialists in agricultural education should be available to assist teachers and local supervisors of agriculture in innovative and emerging programs.

---- Subject matter specialists and professional resource personnel should work in the field with teachers of agriculture.

---- Teacher education experience programs should be provided for present and prospective teachers who need professional and/or occupational experience.

Special attention should be placed upon recruiting prospective teachers of agriculture.

---- Prospective teachers should be recruited from those in the broad field of agriculture industry including high school youth, college students and those presently engaged in the industry.

---- Teachers of agricultural education provide the greatest influence in counseling capable students into teacher education. Their efforts should be fully utilized.

---- Students enrolled in teacher education should be recognized as effective recruiters of future teachers.

---- Prospective teachers may be recruited through professional and commercial media.

---- Placement of beginning teachers should be the responsibility of teacher education in consultation with supervisory staff. Effective placement influences successful recruitment of prospective teachers.

Specialized national and regional programs must be formed to enable teacher educators in counsel with state departments of education officials to develop guidelines and give direction to teacher education in agriculture.

---- Teacher education in agriculture should be developed through joint planning and evaluation and administrators and supervisors of vocational education, College of Agriculture personnel, vocational teacher educators, teacher educators in general education, local school administrators and teachers, and leaders in the broad field of agribusiness.

---- National, regional and state programs should be developed for the professional growth of teacher educators. Teacher educators should be encouraged to improve professionally especially through fellowships, sabbatical leaves, seminars, and institutes.

---- Contracts for teacher education and special services should take the form of long-term or continuing cooperative agreements.

---- Some states may find it advantageous to contract with other states for preparation of teachers in specialized areas.

Guidance and Counselling

Sequential personnel services and occupational information regarding careers in agriculture should be readily available to all persons interested in exploring or pursuing a career in agriculture.

---- Informational materials on agricultural careers should be prepared on the national, regional and state basis and made available to all school guidance personnel, agriculture teachers and other educators beginning at the elementary school level.

---- Teachers of agriculture should have an understanding and appreciation of guidance and counseling philosophy, concepts and techniques.

---- Vocational guidance personnel should have an understanding and appreciation of career opportunities in the total scope of agriculture.

---- Local school departments of agricultural education should be responsible for providing valid information as to manpower needs, salaries, and placement opportunities.

---- Students enrolled in vocational and technical programs in agricultural occupations should have sufficient career information available to encourage individual acceptance of responsibility for self-development.

---- The local school, through the agricultural education staff, should accept responsibility for initial job placement and follow-up of all agriculture students who have completed its program.

Research and development

Research and development should be used more extensively as the basis for decision making in agricultural education.

---- The personnel of research coordinating units for vocational education, teacher educators, state supervisory staffs, local school administrators and teachers, should generate, coordinate, disseminate and implement research materials in agricultural education.

---- Adequate funds should be provided for research and development activities on a long-range continuing basis.

---- Sequential level training programs should be provided for selected staff members in agricultural education to further develop their research competencies.

---- Agricultural educators should identify and assign priorities to research areas by utilizing research and development consulting committees.

---- There should be a nationwide approach to coordinate research activities and disseminate research findings for vocational education in agriculture.

Instructional materials

Agricultural education should accept responsibility for providing curriculum development and educational media services for the programs.

---- Curriculums should reflect the desired student performance objectives to be accomplished.

---- A wide variety of resource personnel should be utilized in developing specific curriculums and instructional materials.

---- Changes in occupational requirements and competencies must be reflected in curriculums.

---- Educational media centers for vocational education should be established with agricultural education identified as one of the components.

---- National, regional and state advisory committees, including teachers, should be used in identifying need, development and use of instructional materials.

---- States should exchange curriculum materials and other educational media. A national and regional effort to standardize the format of instructional materials should be encouraged.